

New Nuclear Plant Deployment

July 2, 2008

Early Site Permits (ESP)

Summary: Three ESPs issued, one utility ESP application is currently under NRC review.

- Exelon – Clinton site, IL – issued on March 15, 2007.
- Entergy – Grand Gulf site, MS – issued on April 5, 2007.
- Dominion Energy – North Anna site, VA – issued on November 27, 2007.
- Southern – Vogtle site, GA – Under NRC review; final EIS decision expected July 2008; Commission decision expected 2009.
- Duke notified NRC of future planned ESP applications (as many as 2) – Possibly Oconee County, SC, and Davie County, NC; no dates identified.
- Unspecified power company announced plans to submit an ESP application in fiscal year 2010.

Combined Construction and Operating License (COL)

Summary: Of nine COL applications submitted, eight have been docketed for NRC review. 20 power companies, of which two remain unidentified, intend to submit 23 license applications for up to 34 units. A Reference COL (R-COL) application has been submitted for four of the five reactor designs.

Combined Construction and Operating License Applications (COLA) Submitted:

- STP Nuclear Operating Co. – South Texas Project (STP), TX (2 units, ABWR R-COL) – Submitted September 2007 and docketed for NRC review November 29, 2007.
- TVA (NuStart) – Bellefonte site, AL (2 units, AP1000 R-COL) – Submitted October 2007 and docketed for NRC review January 18, 2008
- Dominion Energy – North Anna site, VA (1 unit, ESBWR R-COL) – Submitted November 2007 and docketed for NRC review January 29, 2008
- Duke Energy – William States Lee III site, SC (2 units, AP1000) – Submitted December 2007 and docketed for NRC review February 25, 2008
- Progress Energy – Shearon Harris site, NC (2 units, AP1000) – Submitted February 2008 and docketed for NRC review April 17, 2008
- Entergy (NuStart) – Grand Gulf site, MS (1 unit, ESBWR) – Submitted February 2008 and docketed for NRC review April 17, 2008
- UniStar – Calvert Cliffs, MD (1 unit, US-EPR R-COL) – Partial COLA submitted July 2007 and environmental portion docketed January 25, 2008; remainder submitted March 2008 and full application was accepted for NRC review June 5, 2008
- Southern Nuclear – Vogtle site, GA (2 units, AP1000) – COLA submitted March 2008 and docketed for NRC review June 9, 2008
- SCE&G – V.C. Summer site, SC (2 units, AP1000) – COLA submitted March 31, 2008

Combined Construction and Operating License Applications (COLA) Planned:

- Alternate Energy Holdings – Elmore County, ID (1 unit EPR) – submit COLA 4th Qtr. 2008
- Amarillo Power – Amarillo vicinity (undeclared), TX (2 units, EPR) – submit COLA in 2009
- AmerenUE (UniStar) – Callaway site, MO (1 unit EPR) – submit COLA in 3rd Qtr. 2008
- DTE Energy – Fermi site, MI (1 unit, ESBWR) – submit COLA in October 2008
- Entergy – River Bend site, LA (1 unit, ESBWR) – submit COLA in October 2008
- Exelon Generation – Victoria County, TX (2 unit, ESBWR) – submit COLA in November 2008
- Florida Power and Light – Turkey Point site, FL (2 units, AP1000) – COLA in 2009
- Luminant (formerly TXU) – Comanche Peak site, TX (2 units, US APWR) – COLA in September 2008
- PPL (UniStar) – Susquehanna site, PA, (1 unit, EPR) submit COLA in late 2008
- Progress Energy – Levy County, FL (2 units, AP1000) – submit COLA July 2008
- Transition Power – Blue Castle, UT (1 unit, unspecified design) – submit COLA in 2010
- UniStar – Nine Mile Point site, NY (1 unit, EPR) – submit COLA in 4th Qtr. 2008
- Unidentified Utility ‘A’ – (1 unit, unspecified design) – submit COLA in 2010
- Unidentified Utility ‘B’ – (1 unit, unspecified design) – submit COLA in 2010

Licenses to Build Issued By NRC – No license applications have been issued by NRC.

Reactor Design Certification (DC)

Summary: Two designs certified; three new designs and one amendment are under NRC review.

- GE ABWR – Certified in 1997 (10CFR52 App A).
- Westinghouse AP1000 – Certified 2005 (10CFR52 App D). A modification to the certified design was docketed January 18, 2008 and is currently under NRC review.
- GE ESBWR – Under NRC certification review, application docketed December 2005.

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- AREVA US-EPR – Submitted December 12, 2007 and docketed February 25, 2008.
- Mitsubishi Heavy Industries US-APWR – Submitted December 31, 2007 and docketed February 29, 2008.

New Nuclear Plant Orders

Summary: Two plant construction contracts have been initiated; nine power companies have ordered large component forgings from three reactor vendors for potential nuclear plants; one vendor ordered other large equipment.

Long-Lead Equipment Orders: Large forging orders initiated by AREVA, GE-Hitachi, Toshiba and Westinghouse; Westinghouse has also ordered reactor coolant pumps.

- Progress, SCE&G, and Southern have contracted with Westinghouse for long-lead component forgings
- Dominion, Entergy, and Exelon have contracted with GE-Hitachi for long-lead component forgings.
- AmerenUE and UniStar have contracted with AREVA for long-lead component forgings.
- NRG Energy signed an agreement with Toshiba for long-lead component forgings.
- Japan Steel Works currently only ultra-large forging vender worldwide – capacity limited; AREVA, Lehigh Heavy Forge, BWXT and Russia's Uralmash-Izhora Group (OMZ) reportedly developing forging capabilities.
- Westinghouse has ordered 24 AP1000 reactor coolant pumps (RCPs) from Curtiss-Wright.

Plant Construction Contracts: Two utilities have executed plant engineering, procurement, and construction (EPC) contracts.

- Southern Nuclear (Georgia Power) entered into an EPC contract with Westinghouse/Shaw Group for two AP1000s at Vogtle. Start of early site construction is delayed 6 months pending resolution of technical issue pertaining to soil.
- South Carolina Electric & Gas Company (SCE&G) and Santee Cooper entered into an EPC contract with Westinghouse for two AP1000s at the V.C. Summer site.

New Nuclear Plant Construction, Operation & Deferral

Summary: TVA board voted to proceed with the completion of Watts Bar unit 2 in Tennessee at a total cost of \$2.5 billion with an estimated completion date in 2013.

New Nuclear Plants under Construction: Watts Bar unit 2 near Spring City, Tennessee.

New Nuclear Plant Begin Operation: None.

Deferred: None.

Federal Financial Incentives

Summary: EPC Act 2005 incentives are at various stages of development: two rules issued and one notice published.

Standby Support: Rule issued, no industry Conditional Agreement requests to date, no contracts issued.

- Final Rulemaking Issued – August 2006.
- Published Standard Conditional Agreement – September 2007.
- DOE released on-line instructions for requesting Conditional Agreement – December 2007
- Two Notices of Intent to Request Conditional Agreement received – April 21, 2008 and June 13, 2008
- Expect first request from industry for Conditional Agreements – FY 2008.
- Expect first approval by DOE for standby support contracts – Late 2010.

Production Tax Credits: Notice issued.

- Published Internal Revenue Bulletin 2006-18 on May 2006.
- Final Rule on Tax Credit and Guidelines on "Certification Process" – FY 2008.

Energy Facility Loan Guarantee: Final rulemaking issued; no nuclear-related loan guarantee application received.

- DOE issued solicitations for \$18.5 billion in loan guarantees for new nuclear power facilities and \$2 billion for the "front end" of the nuclear fuel cycle on June 30, 2008.
- As estimates of the construction costs continue to rise, the authorized amount for loan guarantees may be unable to cover the necessary number of nuclear projects needed to catalyze follow-on nuclear construction fully financed by the private sector. It will be necessary to:
 - Increase the loan guarantee authority,
 - Revise the Final Rule to allow inter-creditor agreements across multiple loans on one project, or
 - Agree that only the actual USG exposure on partially-guaranteed loans be scored against the loan guarantee authority rather than the entire loan principal.
- Nuclear power facilities solicitation is broken into two application parts that must be received by the Department by September 29, 2008 and December 19, 2008, respectively.
- Nuclear fuel cycle solicitation is also broken into two application parts that must be received by the Department by September 29, 2008 and December 2, 2008, respectively.